



Maralex Resources

La Plata County, CO

Jennie Rose

Jennie Rose 33-7-3 #3B Base Coal

OH

Plan: Plan #1

Standard Planning Report

21 May, 2013

*Drilling Plan subject to
modification depending
on rig and directional
drilling equipment
availability.



Database: Farmington District
Company: Maralex Resources
Project: La Plata County, CO
Site: Jennie Rose
Well: Jennie Rose 33-7-3 #3B Base Coal
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Jennie Rose 33-7-3 #3B Base Coal
TVD Reference: GL 6726' & RKB 12' @ 6738.01ft
MD Reference: GL 6726' & RKB 12' @ 6738.01ft
North Reference: True
Survey Calculation Method: Minimum Curvature

Project La Plata County, CO

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: Colorado Southern Zone
System Datum: Mean Sea Level

Site Jennie Rose

Site Position: Northing: 1,178,086.22 ft Latitude: 37° 8' 12.660 N
From: Lat/Long Easting: 2,387,935.71 ft Longitude: 107° 35' 59.280 W
Position Uncertainty: 0.00 ft Slot Radius: 13.200 in Grid Convergence: -1.29 °

Well Jennie Rose 33-7-3 #3B Base Coal

Well Position +N/-S 0.00 ft Northing: 1,178,086.22 ft Latitude: 37° 8' 12.660 N
 +E/-W 0.00 ft Easting: 2,387,935.71 ft Longitude: 107° 35' 59.280 W
Position Uncertainty 0.00 ft Wellhead Elevation: Ground Level: 6,726.01 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/17/2013	9.64	63.79	50,790

Design Plan #1

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	80.27

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,660.01	0.00	0.00	2,660.01	0.00	0.00	0.00	0.00	0.00	0.00	
3,160.82	90.15	80.27	2,978.31	53.94	314.54	18.00	18.00	16.03	80.27	
6,007.24	90.15	80.27	2,971.01	535.00	3,120.00	0.00	0.00	0.00	0.00	JR 33-7-3 Base Coal

Database:	Farmington District	Local Co-ordinate Reference:	Well Jennie Rose 33-7-3 #3B Base Coal
Company:	Maralex Resources	TVD Reference:	GL 6726' & RKB 12' @ 6738.01ft
Project:	La Plata County, CO	MD Reference:	GL 6726' & RKB 12' @ 6738.01ft
Site:	Jennie Rose	North Reference:	True
Well:	Jennie Rose 33-7-3 #3B Base Coal	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Casing									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,610.01	0.00	0.00	2,610.01	0.00	0.00	0.00	0.00	0.00	0.00
Intermediate Casing									
2,660.01	0.00	0.00	2,660.01	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	7.20	80.27	2,699.89	0.42	2.47	2.51	18.00	18.00	0.00
2,800.00	25.20	80.27	2,795.53	5.12	29.86	30.29	18.00	18.00	0.00
2,858.65	35.76	80.27	2,846.01	10.14	59.13	60.00	18.00	18.00	0.00
Fruitland Coal									
2,900.00	43.20	80.27	2,877.90	14.58	85.03	86.27	18.00	18.00	0.00
3,000.00	61.20	80.27	2,938.94	27.88	162.59	164.96	18.00	18.00	0.00
3,051.52	70.47	80.27	2,960.01	35.81	208.86	211.91	18.00	18.00	0.00
Top Basal Coal Target Zone									
3,100.00	79.20	80.27	2,972.68	43.72	254.94	258.66	18.00	18.00	0.00
3,160.82	90.15	80.27	2,978.31	53.94	314.54	319.13	18.00	18.00	0.00
3,200.00	90.15	80.27	2,978.21	60.56	353.15	358.30	0.00	0.00	0.00
3,300.00	90.15	80.27	2,977.96	77.46	451.71	458.30	0.00	0.00	0.00
3,400.00	90.15	80.27	2,977.70	94.36	550.27	558.30	0.00	0.00	0.00
3,500.00	90.15	80.27	2,977.44	111.26	648.83	658.30	0.00	0.00	0.00
3,600.00	90.15	80.27	2,977.19	128.16	747.39	758.30	0.00	0.00	0.00
3,700.00	90.15	80.27	2,976.93	145.06	845.96	858.30	0.00	0.00	0.00
3,800.00	90.15	80.27	2,976.67	161.96	944.52	958.30	0.00	0.00	0.00
3,900.00	90.15	80.27	2,976.42	178.86	1,043.08	1,058.30	0.00	0.00	0.00
4,000.00	90.15	80.27	2,976.16	195.76	1,141.64	1,158.30	0.00	0.00	0.00
4,100.00	90.15	80.27	2,975.90	212.66	1,240.20	1,258.30	0.00	0.00	0.00
4,200.00	90.15	80.27	2,975.65	229.56	1,338.76	1,358.30	0.00	0.00	0.00
4,300.00	90.15	80.27	2,975.39	246.46	1,437.32	1,458.30	0.00	0.00	0.00
4,400.00	90.15	80.27	2,975.13	263.36	1,535.88	1,558.30	0.00	0.00	0.00

Database: Farmington District
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Project: La Plata County, CO
Site: Jennie Rose
Well: Jennie Rose 33-7-3 #3B Base Coal
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Jennie Rose 33-7-3 #3B Base Coal
TVD Reference: GL 6726' & RKB 12' @ 6738.01ft
MD Reference: GL 6726' & RKB 12' @ 6738.01ft
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.00	90.15	80.27	2,974.88	280.27	1,634.44	1,658.30	0.00	0.00	0.00
4,600.00	90.15	80.27	2,974.62	297.17	1,733.01	1,758.30	0.00	0.00	0.00
4,700.00	90.15	80.27	2,974.36	314.07	1,831.57	1,858.30	0.00	0.00	0.00
4,800.00	90.15	80.27	2,974.11	330.97	1,930.13	1,958.30	0.00	0.00	0.00
4,900.00	90.15	80.27	2,973.85	347.87	2,028.69	2,058.30	0.00	0.00	0.00
5,000.00	90.15	80.27	2,973.59	364.77	2,127.25	2,158.30	0.00	0.00	0.00
5,100.00	90.15	80.27	2,973.34	381.67	2,225.81	2,258.30	0.00	0.00	0.00
5,200.00	90.15	80.27	2,973.08	398.57	2,324.37	2,358.30	0.00	0.00	0.00
5,300.00	90.15	80.27	2,972.82	415.47	2,422.93	2,458.30	0.00	0.00	0.00
5,400.00	90.15	80.27	2,972.57	432.37	2,521.50	2,558.30	0.00	0.00	0.00
5,500.00	90.15	80.27	2,972.31	449.27	2,620.06	2,658.30	0.00	0.00	0.00
5,600.00	90.15	80.27	2,972.05	466.17	2,718.62	2,758.30	0.00	0.00	0.00
5,700.00	90.15	80.27	2,971.79	483.07	2,817.18	2,858.30	0.00	0.00	0.00
5,800.00	90.15	80.27	2,971.54	499.97	2,915.74	2,958.30	0.00	0.00	0.00
5,900.00	90.15	80.27	2,971.28	516.88	3,014.30	3,058.30	0.00	0.00	0.00
6,000.00	90.15	80.27	2,971.02	533.78	3,112.86	3,158.29	0.00	0.00	0.00
6,007.24	90.15	80.27	2,971.01	535.00	3,120.00	3,165.54	0.00	0.00	0.00

JR 33-7-3 Base Coal Target PBHL

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
JR 33-7-3 Base Coal Tai - plan hits target center - Point	0.00	0.00	2,971.01	535.00	3,120.00	1,178,550.95	2,391,066.95	37° 8' 17.948 N	107° 35' 20.749 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
500.00	500.00	Surface Casing	9.625	12.250
2,610.01	2,610.01	Intermediate Casing	7.000	8.750

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,858.65	2,846.01	Fruitland Coal		0.00	
3,051.52	2,960.01	Top Basal Coal Target Zone		0.00	



Project: La Plata County, CO
 Site: Jennie Rose
 Well: Jennie Rose 33-7-3 #3B Base Coal
 Wellbore: OH
 Design: Plan #1

PROJECT DETAILS: La Plata County, CO

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Southern Zone
 System Datum: Mean Sea Level
 Local North: True

Plan: Plan #1 (Jennie Rose 33-7-3 #3B Base Coal/OH)

Created By: Janie Collins Date: 16:00, May 21 2013



Azimuths to True North
 Magnetic North: 9.64

Magnetic Field
 Strength: 50789.9nT
 Dip Angle: 63.79
 Date: 5/17/2013
 Model: IGRF2010

WELL DETAILS: Jennie Rose 33-7-3 #3B Base Coal

GL 6726' & RKB 12' @ 6738.01ft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1178086.22	2387935.71	37° 8' 12.660 N	107° 35' 59.280 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2660.01	0.00	0.00	2660.01	0.00	0.00	0.00	0.00	0.00	
3	3160.82	90.15	80.27	2978.31	53.94	314.54	18.00	80.27	319.13	
4	6007.24	90.15	80.27	2971.01	535.00	3120.00	0.00	0.00	3165.54	JR 33-7-3 Base Coal Target PBHL

